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(11) EP 1 065 725 A3

(12)

### **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: 19.05.2004 Bulletin 2004/21

- (51) Int Cl.<sup>7</sup>: **H01L 27/15**, H01L 51/20, H01L 51/40, H01L 27/00
- (43) Date of publication A2: 03.01.2001 Bulletin 2001/01
- (21) Application number: 00113587.0
- (22) Date of filing: 27.06.2000
- (84) Designated Contracting States:

  AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU

  MC NL PT SE

  Designated Extension States:

  AL LT LV MK RO SI
- (30) Priority: 28.06.1999 JP 18259899
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- (54) Method of manufacturing an electro-optical device
- (57) An object of the invention is to reduce the manufacturing cost of EL display devices and electronic devices incorporating the EL display devices.

An EL material is formed by printing in an active ma-

trix EL display device. Relief printing or screen printing may be used as the method of printing. Manufacturing steps of the EL layer is therefore simplified and reduction of manufacturing cost is devised.

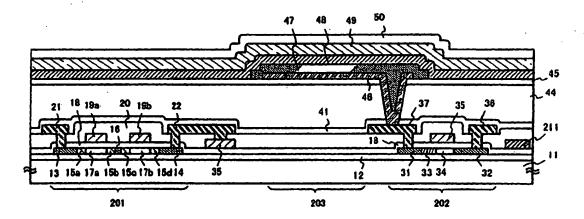


Fig. 2



# **EUROPEAN SEARCH REPORT**

Application Number EP 00 11 3587

	Citation of document with I			Polovost	CI ACCICIOA 71041 OC 7115
Category	Citation of document with i		iale,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
X	EP 0 901 174 A (SUN 10 March 1999 (1999 * page 10, paragrap * page 11, paragrap	9-03-10) ohs 72-74 *		1,6,7,9, 11,13,14	H01L27/15 H01L51/20
Y	puge 11, purugrup			3,12,15, 16	
Y	US 5 821 003 A (KIM 13 October 1998 (19 * column 6, line 61	98-10-13)	AL)	3,15	
X	EP 0 880 303 A (SEI 25 November 1998 (1 * page 10, line 52- * page 11, line 1-1 * page 13, line 10- * page 14, line 17- * page 5, line 6-18 * page 6, line 11-1	1998-11-25) -58 * -8 * -19 * -19 *		1-7,10	
<b>'</b>	,		(1	2,16	
, x	EP 0 954 205 A (SON	Y CORP)	1	.,6-9.	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
	3 November 1999 (19 * page 3, paragraph * page 4, paragraph * page 5, paragraph * page 7, paragraph	17 * 1s 21,23,32 * 1 37 *		1,13-15	H01L .
K	PATENT ABSTRACTS OF vol. 016, no. 084 ( 28 February 1992 (1 & JP 03 269995 A (R 2 December 1991 (19 * abstract *	E-1172), 992-02-28) EICOH CO LTD),	1	.,6,7	
		· <del>-</del> ,	/	-	
	The present search report has				
	Place of search	Date of completion			Examiner
X : parti Y : parti	THE HAGUE  ATEGORY OF CITED DOCUMENTS  cutarly relevant if taken alone cutarly relevant if combined with anot ment of the same category	E: her D:	theory or principle useful repatent document cited in the document cited for document cited for comment cited for commen	nent, but publis ne application	wention
A : techi O : non-	nological background -written disclosure mediale document	 8 :		····	



## **EUROPEAN SEARCH REPORT**

Application Number

EP 00 11 3587

		ERED TO BE RELEVANT		
Category	Citation of document with it of relevant pass	ndication, where appropriate, sages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
<b>X</b>	PATENT ABSTRACTS OF vol. 1998, no. 08, 30 June 1998 (1998- -& JP 10 077467 A ( 24 March 1998 (1998 * abstract * * figure 1 *	06-30) SUMITOMO CHEM CO LTD)	, 1,6,7	
				· .
. •				.*
				TECHNICAL FIELDS SEARCHED (Int.C1.7)
ļ		·		
	•			
		*·-		
	The present search report has t	een drawn up for all claims		
	Place of search	Date of completion of the search	<del></del>	Examiner
	THE HAGUE	3 March 2004	Faou	, M
X : partk Y : partk docu A : techr	ATEGORY OF CITED DOCUMENTS cutarry relevant if taken alone cutarry relevant if combined with another ment of the same category tological background written disclosure mediate document	E : earlier patent after the flang D : document cla L : document cla	ed in the application ed for other reasons	ned on, or

EPO FORM 1503 03 62 (POLCO1)

### EP 1 065 725 A3

### ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 00 11 3587

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

03-03-2004 -

Patent document cited in search report		Publication date	Publication date		Patent family member(s)		
ΕP	0901174	Α	10-03-1999	EP	0901174		10-03-1999
				JP	11176576		02-07-1999
				US	6403236	B1	11-06-2002
บร	5821003	A	13-10-1998	CA ·	2163010	-	21-09-1995
				EP	0702075		20-03-1996
				WO	9525149	–	21-09-1995
				KR	246496		01-04-2000
				TW	406199	<del></del> -	21-09-2000
ΕP	0880303	Α	25-11-1998	JP	10153967		09-06-1998
	-			DE	69727212		19-02-2004
				EP	0880303		25-11-1998
				CN	1212114		24-03-1999
	•			EP	1211916		05-06-2002
				ÉP	1376716	_	02-01-2004
				EP	1376717 9824271		02-01-2004 04-06-1998
				WO US	2003054186		20-03-2003
				US	2003054180		24-10-2002
				US	2001001050		10-05-2001
				ÜŠ	2002136823		26-09-2002
				US	2002041926		11-04-2002
EP	0954205	Α	03-11-1999	JP EP	11273859 0954205		08-10-1999 03-11-1999
JP	03269995	Α	02-12-1991	NONE	- <del></del>		
JP	10077467	Α	24-03-1998	NONE			
•	•				•		
						,	
			•				

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82